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Application: 10/007153

Examiner: File

GAU: 2634

From: PAP

Location: IDC FMF FDC

Date: 12/12/05

Tracking #: EPM 10/007153 Week Date: 7/19/05

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: **Aris Papasakellariou**
Serial No: **10/007,153**
Filed: **12/4/2001**
Art Unit: **2634**
Examiner: **E. File**
Docket No.: **TI-32538**
Conf. No.: **1130**
Customer No.: **23494**

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| <input type="checkbox"/> DIVISIONAL APP'N | | |
| NAME OF INVENTOR(S): Aris Papasakellariou | | RECEIPT DATE & SERIAL NO.: Serial No.: 10/007,153 Filing Date: 12/4/2001 Conf. No.: 1130 |
| TITLE OF INVENTION: Spreading Factor Estimation System and Method | | |
| TI FILE NO.: TI-32538 | DEPOSIT ACCT. NO.: 20-0668 | |
| FAXED: 01/30/2006 | | |
| DUE: ATTY/SEC'Y: CHH/gs | | |

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UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Serial Number
10007153

Date Mailed
12/28/05

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed


This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 30 days from the mail date of this Notice within which to correct the informalities indicated below. A failure to reply will result in the application being ABANDONED. This period for reply is NOT extendable under 37 CFR 1.136 (a) or (b).

- ♦ Specification page 1, line 4 serial number and filing date missing. Fax missing information to number below or e-mail.
 - For status updates visit <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR System, contact the Electronic Business Center (EBC) toll free at 866-217-9197.

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SPREADING FACTOR ESTIMATION SYSTEM AND METHOD

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority from provisional applications: Serial No. 60/263,669, filed 01/23/01. The following patent applications disclose related subject matter: Serial Nos. 09/....., filed (→). These referenced applications have a common assignee with the present application.

10/176,156, filed 06/20/2002

BACKGROUND OF THE INVENTION

The invention relates to electronic communications, and more particularly to CDMA-based coding, transmission, and decoding/synthesis methods and circuitry.

Code division multiple access (CDMA) coding has been extensively used in such applications as cellular and satellite communications. CDMA signals increase the spectrum required for the transmission at a particular data rate by modulating each data symbol with a spreading code having a rate larger than the data rate. The same spreading code is used for each data symbol. Typically, the spreading code comprises of a few tens or a few hundreds of elements, called chips. To decrease the correlations among spreading codes assigned to different users, and thereby reduce the interference among different users, the data stream after spreading is typically scrambled with a pseudo-noise (PN) code that is generated serially and cyclically and has a larger period than the spreading code. Examples of such CDMA signal spreading are the schemes used by the IS-95/CDMA2000 and 3GPP systems.

With CDMA, the signals from all users simultaneously occupy the same frequency band, and the receiver separates the multiple signals by exploiting the crosscorrelation properties of the spreading and scrambling codes that are applied to each user's signal. The receiver attempts to match in time the spreading and scrambling codes of the desired signal with a replica of these codes. Only then the demodulation result is meaningful; otherwise it appears noise-like. Thus, if the arriving signals have different codes or different code offsets, they can be discriminated at the receiver. The CDMA code for each user is typically produced as the modulo-2 addition of a Walsh code with a pseudo-random code (two pseudo-